SECTION 16715

PREMISES TELEPHONE WIRING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

A. This Section includes premises wiring for telephone distribution, including installations for service by local private branch exchange and remote switch nodes specified under other sections in this division.

B. Related sections: Include the following:
1. Section 16450, “Grounding”.
2. Installation shall meet Category 3 performance requirements.

1.3 DEFINITIONS

A. Local Exchange Carrier: Telephone utility or other entity that provides an access line from a local exchange into the premises.

B. Exchange Access Line: Circuit carrying telephone service into the premises.

C. Distribution Circuit: Circuit from the network interface device to a distribution device, such as a terminal block or junction box.

D. Station Circuit: Circuit from a distribution device to a telecommunications outlet.

E. Telecommunications Outlet: Telephone jack for connecting equipment to communication circuits.

1.4 REFERENCES

A. National Fire Protection Association (NFPA)
1. NFPA 70, 1999, National Electrical Code

B. Electronics Industries Association (EIA)
1. EIA/TIA 570, 1991 Residential and light commercial telecommunications wiring standard.
2. EIA/TIA-568-A-1995, Commercial Building Telecommunications Cabling Standard

C. Insulated Cable Engineers Association (ICEA)
1. ICEA S-80-576, 1988, Communication Wire and Cable for Wiring of Premises.

D. Underwriters Laboratories, Inc. (UL)
1. UL 486A, 1997, Wire Connectors and Soldering Lugs for Use with Copper Conductors.

1.5 SUBMITTALS

A. Product Data: For each type of product specified for approval.

B. Testing log for approval.

1.6 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

B. Comply with EIA/TIA 568-A.

C. Comply with NFPA 70.

1.7 PROJECT CONDITIONS

A. Notify Construction Manager not less than two days in advance of proposed utility interruptions.

B. Do not proceed with utility interruptions without Construction Manager's written permission.

1.8 COORDINATION

A. Coordinate premises wiring with requirements of telephone equipment supplier.

PART 2 - PRODUCTS

2.1 COMPONENTS

A. Comply with EIA/TIA 568-A.

B. Telecommunications and Auxiliary Disconnect Outlets: Four-position modular, latching, plug-type, jack-in, flush-mounting wall plate, unless otherwise indicated.

C. Wall Plates: Designed for telephone service with combination data outlet. Match those indicated for power receptacle outlets in same spaces for materials and finish. For wall mounted telephone units, include provision for support of unit.

D. Distribution and Station Cable: Four-pair, No. 24 AWG, solid-copper, unshielded, twisted-pair construction in PVC sheath.
1. Comply with ICEA S-80-576.
2. Plenum cable is listed for use in plenums.
3. In tunnels any Teflon coated wiring is prohibited.

E. Cabinets: Comply with Division 16. Furnish cabinets with backboard.

F. Backboard: 3/4-inch (19-mm) interior fire proof grade plywood. Where installed in wire closet, height and width shall cover entire wall up to 96 inches (2,500 mm) above floor, unless otherwise indicated.

G. Provide connectorized line cords, minimum 15’ length, one for each telephone outlet.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Telephone Service: Comply with local telephone exchange carrier's requirements for details of telephone service.

B. Install outlet boxes and telecommunications outlets.

C. Install cable without damaging conductors and jacket.
   1. Do not bend cable to a smaller radius than minimum recommended by manufacturer.

D. Install premises wiring in raceways, unless otherwise indicated.
   1. Install cables in walls unless walls are solid or filled with insulation. In solid walls, install in raceway and terminate raceway with a bushing in ceiling space above outlet.
   2. Install cables without raceway where concealed in accessible ceiling space, unless otherwise indicated.
   3. Use pulling methods that will not damage cable or raceway, including fish tape, cable, rope, and wire-cable grips. Do not exceed manufacturer's recommended pulling tensions.
   4. Pull cables simultaneously where more than one is being installed in the same raceway or at the same location.
   5. Conceal raceway, except in unfinished spaces and as indicated.

E. Install exposed cable parallel or perpendicular to surfaces or exposed structural members and follow surface contours where possible.

F. Secure cable to independent supports at intervals as required to prevent sagging between supports. Keep supported cabling at least 24” above accessible ceiling tiles.

3.2 CONNECTIONS

A. Ground equipment.
   1. Install ground terminal at local exchange carrier service location and in telecommunications rooms, backboards, cabinets, etc. and connect according to Section 16450.
   2. Tighten electrical connectors and terminals according to manufacturers published torque-tightening values. If manufacturers torque values are not indicated, use those specified in UL 486A and UL 486B.

3.3 IDENTIFICATION

A. Identify components and circuits according to Division 16 Section and as shown.

B. Identify telephone system backboards and cabinets with the legend "Telephone."

C. Identify terminals at terminal strips, telecommunications outlets, and pull-and-junction boxes with approved designations.

3.4 FIELD QUALITY CONTROL

A. Testing: Perform the following field quality-control testing:
   1. Test continuity of each circuit pair loop.
   2. Provide a record of test results for future reference.

END OF SECTION 16715